More Information

Time Wednesday, February 28, 2001
1:00 pm - 2:00 pm

Location 50F-1647 Conference Room

Title Py-Climate: A Python based toolkit for the analysis of large atmospheric and oceanic data sets

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Abstract Due to the existing concern about the detection and attribution of human-induced climate change in recent years, there is also an increasing interest in a careful analysis of several instrumental data sets, as well as modeling results. Some of the data analysis performed relies heavily on eigenvalue techniques and matrix-oriented operations. Our recent work has resulted in a new Python-based package to assist in the analysis of atmospheric and oceanic data during our work on and studies of the climate system.

Some years ago, we used to mainly write FORTRAN 77 and C codes. Currently, we heavily use Python with its numeric extensions and our in-house developed software package called PyClimate to meet some of the most frequent tasks during the data analysis. The use of Python has helped us a lot in reducing drastically the time needed to perform the data analysis by reducing the development time of our programs.

In this seminar we present an overview of PyClimate (http://www.pyclimate.org), and a justification for our choice for Phyton inside our scientific work. We illustrate some of the scientific and computational problems we have been addressing with PyClimate and some of the new difficulties that we are facing currently with the use of larger data sets and computationally demanding tasks. These difficulties make us think that it is worth expanding the current capabilities of PyClimate with access to high performing tools like the ones found in the ACTS Toolkit.

Sponsor Tony Drummond